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Investigation of self-esteem and sexual function levels of patients who diagnosed with polycystic ovary syndrome: a prospective study

Polikistik over sendromu tanısı almış hastaların benlik saygısı ve cinsel işlev düzeylerinin incelenmesi: prospektif bir çalışma

Nazlı Korkmaz[1], Sidal Çetin[2]

[1]Istanbul Demiroğlu Bilim University, Department of Obstetrics and Gynecology, Istanbul, Turkey
[2]Atakent Hospital, Clinic of Clinical Psychology, Yalova, Turkey

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ABSTRACT

Aim: Polycystic ovary syndrome (PCOS) is seen in 5-10% of women, it affects many systems as a result of hyperandrogenism. In addition to its endocrinological and metabolic results, it has been reported that women with PCOS have a decrease in their self-esteem levels due to body image disorders. Sexual dysfunction such as sexual desire, orgasm, arousal and sexual satisfaction occurs in patients with PCOS due to both physical changes and emotional differences. Our aim in this study is to analyze the self-esteem levels and self-esteem levels of women diagnosed with PCOS and to evaluate the factors affecting them.

Material and Method: Women between the ages of 18-55 who were diagnosed with PCOS were prospectively included in the study. Demographic characteristics, such as age, marital status, and employment status, were recorded. The patients' self-esteem levels were analyzed with the Rosenberg self-esteem scale (RBSS). The sexual dysfunction scale (SDS) was used to evaluate the sexual dysfunctions of the women participating in the study. The $p<0.05$ was considered statistically significant in all analyzes.

Results: Overall 51 patients diagnosed with PCOS were included in the study. The median age was 28 years (IQR 24-32). The most common symptoms and signs were obesity (68.6%), oligomenorrhea (66.7%), polycystic ovaries (66.7%), and hirsutism (52.9%). The mean RBSS score was 1.41±2.1; 49.0% of women had high self-esteem, 43.1% had medium self-esteem and 7.8% had low self-esteem. Women with acne and hirsutism had a higher rate of low self-esteem ($p=0.014$ and $p=0.023$, respectively). While the sexual desire levels were low in 47.1% of the women; the median sexual desire score was 4.2 (IQR 3-4.8). Sexual arousal levels were significantly lower who had hirsutism (72.0%-37.5%) and oligomenorrhea (68.8%-29.4%) ($p=0.015$ and $p=0.022$, respectively). Only 43.1% of women had low orgasm levels during sexual intercourse; and 31.4% had low level of sexual satisfaction. Pain level during sexual intercourse was low in all women. Sexual dysfunction was also observed in 43.2% of women with PCOS.

Conclusion: One of the most important comorbidities of PCOS is sexual dysfunction. Sexual reluctance, especially with the effect of physical changes and hirsutism, is the most important part of sexual dysfunction.

Keywords: Polycystic ovary syndrome, self-esteem, sexual desire, sexual satisfaction, sexual dysfunction

ÖZ

Amaç: Polikistik over sendromu (PKOS), kadınların %5-10'ununda görülürken hiperandrojenizm sonucu birçok sistemi etkilemektedir. Endokrinolojik ve metabolik sonuçlarının yanısıra, PKOS'lu kadınların beden imaj bozuklukları nedeni ile benlik saygı düzeylerinde azalma olduğu da bildirilmektedir. Ayrıca, PKOS'lu hastalarda gerek bedensel değişiklikler gerekse de emosyonel farklılıklar nedeni ile cinsel istek, orgazm, uyarılma ve cinsel doyum gibi cinsel işlev bozukluğu da ortaya çıkmaktadır. Bu çalışmadaki amacımız, PKOS tanısı olan kadınların benlik saygı düzeyleri ve benlik saygı düzeylerinin analiz edilmesi ve bunlara etki eden faktörlerin değerlendirilmesidir.

Gereç ve Yöntem: Çalışmaya 18-55 yaş arasında PKOS tanısı konulan kadınlar prospektif olarak dahil edildi. Kadınların yaş, medeni durum, çalışma durumu gibi demografik özellikleri kaydedildi. Rosenberg benlik saygısı ölçeği (RBSÖ) ile hastaların benlik saygı düzeyleri analiz edildi. Çalışmaya katılan kadınların cinsel işlev bozukluklarını değerlendirmek için cinsel işlev bozukluk ölçeği (CİBÖ) kullanıldı. Tüm analizlerde $p<0,05$ istatistiksel olarak anlamlı kabul edildi.

Bulgular: Çalışmaya PKOS tanısı konulan 51 hasta dahil edildi. Kadınların ortanca yaşı 28 yıl (IQR 24-32) idi. En sık görülen semptom ve bulgular, obezite (%68,6), oligomenore (%66,7), poliklistik overler (%66,7) ve hirsutizm (%52,9) şeklindeydi. Ortalama RBSÖ puanı 1,41±2,1 iken; kadınların %49,0'ının yüksek, %43,1'inin orta ve %7,8'inin de düşük benlik saygısına sahipti. Aknesi ve hirsutizmi olan kadınlardaki düşük benlik saygısı oranı daha fazlaydı (sırasıyla, $p=0,014$ ve $p=0,023$). Kadınların %47,1'inde cinsel istek düzeyleri düşük iken; ortanca cinsel istek puanı 4,2 (IQR 3-4,8) olarak saptandı. Hirsutizm (%72,0-%37,5) ve oligomenore (%68,8-%29,4) olan PKOS'lu kadınlarda cinsel uyarılma düzeyleri anlamlı derecede düşüktü (sırasıyla, $p=0,015$ ve $p=0,022$). Kadınların %43,1'inde cinsel ilişki sırasında orgazm düzeyleri düşük olarak görülürken; sadece %31.4'ünde cinsel doyum düzeyi düşüktü. Cinsel ilişki sırasında ağrı düzeyi tüm kadınlarda düşüktü. PKOS tanılı kadınların %43,2'sinde de cinsel işlev bozukluğu olduğu görüldü.

Sonuç: PKOS'un en önemli komorbiditelerinden birisi de cinsel işlev bozukluklarıdır. Özellikle bedensel değişiklikler ve hirsutizmin de etkisi ile ortaya çıkan cinsel isteksizlik cinsel işlev bozukluğunun en önemli kısmıdır.

Anahtar Kelimeler: Polikistik over sendromu, benlik saygısı, cinsel istek, cinsel doyum, cinsel işlev bozukluğu

Corresponding Author/Sorumlu Yazar: Nazlı Korkmaz, Demiroglu Bilim University, Gynecology and Obstetrics, 34394, Istanbul, Turkey
E-mail/E-posta: drnazlikorkmaz@gmail.com
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INTRODUCTION

Polycystic ovary syndrome (PCOS), first described by Stein and Leventhal in 1935, is a clinical picture that has a heterogeneous genetic basis and many factors play a role in its etiology (1). PCOS, which is accepted as one of the most common endocrinopathies in women, affects 5-10% of women (2). Oligomenorrhea or amenorrhea, signs of hyperandrogenism (clinical and/or laboratory), and polycystic ovaries in pelvic ultrasonography (USG) constitute the diagnostic criteria used for the diagnosis of PCOS (2,3). Because it affects many systems, it can also cause hyperinsulinemia, glucose intolerance, obesity, hypertension, cervical cancer and psychiatric disorders in women (4).

Self-evaluation of individuals and their expression of the resulting mood is defined as self-esteem (5). Self-esteem is affected by people's physical health and physical appearance. It has been shown that physical appearance disorders cause a decrease in self-esteem (6, 7). However, in a study conducted on patients with PCOS, it was reported that their self-esteem was lower than that of normal women due to their physical appearance and health problems (8). The presence of acne and hirsutism, especially in women with PCOS, further lowers their self-esteem (9).

Sexual dysfunctions in women; desire and arousal disorders, orgasm disorder and sexual pain disorders. The most common sexual dysfunctions are desire, orgasm and arousal disorders (10). Loh et al. (4), who examined sexual dysfunctions in patients with PCOS, reported that the risk of sexual dysfunction in women with PCOS was 30% higher than in women in the normal population. In addition, in the study conducted by Dashti S et al. (11) on patients with PCOS, they reported the rate of sexual dysfunction in women diagnosed with PCOS as 62.5%. On the other hand, there are also studies in the literature reporting that women diagnosed with PCOS do not have significant sexual dysfunction (12,13).

Our aim in this study is to examine the effect of the disease on self-esteem in women diagnosed with PCOS. In addition, the sexual dysfunctions of women with PCOS and the factors affecting their sexual functions will be investigated.

MATERIAL AND METHOD

The study was carried out with the permission of Demiroglu Bilim University Faculty of Medicine Scientific Researches Ethics Committee (Date: 2022, Decision No: 2022-06-02). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

Patient Selection

Patients aged 18-55 years diagnosed with PCOS in the tertiary gynecology and obstetrics clinic were prospectively included in the study. After giving written or verbal information about the study, written consent was obtained from the patients who agreed to participate in the study.

Data Collection and Evaluation of Patients

Age, marital status, employment status and educational status of the women participating in the study were recorded. The time elapsed after being diagnosed with PCOS was analyzed. It was recorded which symptoms (acne, hirsutism, obesity, menstrual irregularities, etc.) were diagnosed with PCOS.

Evaluation of Self-Esteem

The Rosenberg Self-Esteem Scale (RBSS) was used to assess women's self-esteem (14). The first 10 questions of the RBSS, which consisted of 12 questions in total, were used. "True", "Very true", "Very false" and "False" options were used in each question. As a result of the analysis of the RBSS used, if the sum of the scores obtained from all items was 0-1, self-esteem was considered high, if it was 2-4, it was considered moderate, and if it was >5, it was considered low self-esteem.

Evaluation of Sexual Dysfunction

The sexual dysfunction scale (SDS) consisting of 19 questions was used to evaluate the sexual dysfunctions of the women participating in the study (15). While the first and second questions show the level of sexual desire, the answer to each question is scored between 1-5 and the total score is multiplied by 0.6. If the resulting total score was ≤3.6, it was thought that there was a decrease in the sexual desire levels of the women. Other parameters were scored in the range of 0-5. While the sexual arousal levels were evaluated with the 3rd, 4th, 5th and 6th questions; lubrication levels were evaluated in the 7th, 8th, 9th and 10th questions. The total scores of these two analyzes were multiplied by a coefficient of 0.3. A sexual arousal total score of ≤3.9 and a lubrication total score of ≤3.6 were accepted as pathology. Women's orgasm levels were evaluated in the 11th, 12th, 13th questions; sexual satisfaction levels were evaluated in the 14th, 15th, and 16th questions and pain levels during sexual intercourse were analyzed in questions 17, 18 and 19. The total scores obtained in orgasm, sexual satisfaction and pain questions were multiplied by a coefficient of 0.4. Sexual satisfaction and orgasm score of ≤3.6 and a pain score of ≤4.4 were accepted as pathology (10, 15). A total score of ≤22.7 on the SDS administered to women was considered to have sexual dysfunction in women (10).

Statistical Analysis

Data were analyzed using the program SPSS 25.0 (IBM, Armonk, NY: IBM Corp.). Mean±standard deviation for parametric tests in presenting continuous variables; For non-parametric tests, the median (interquartile range, IQR) and categorical variables were expressed as numbers and percentages. In the comparison of independent group differences, one-way analysis of variance provided parametric test assumptions; Kruskal Wallis analysis of variance was used when parametric test assumptions were not met. A simple correlation test was applied to evaluate the relationship between the two variables. Chi-square analysis was used to analyze the differences between categorical variables. The $p<0.05$ was considered statistically significant in all analyzes.

RESULTS

Overall 51 patients diagnosed with PCOS were included in the study. The median age was 28 years (IQR 24-32). More than half of the patients (52.9%) had a university degree or higher, 78.4% were married and 54.9% (n=28) were working in any job (**Table 1**). The median time elapsed after the diagnosis of PCOS was 3 years (minimum 1-maximum 4, IQR 2-4 years). The most common symptoms and findings were obesity (68.6%), oligomenorrhea (66.7%), polycystic ovary appearance on USG (66.7%), and hirsutism (52.9%), respectively (**Table 2**).

Table 1. Demographic characteristics of patients in the study

Age [median (IQR)] (year)	28 (24-32)
Education status, [n (%)]	
<University	24 (47.1)
≥University	27 (52.9)
Married status, [n (%)]	
Single	11 (21.6)
Married	40 (78.4)
Working status, [n (%)]	
Working	28 (54.9)
No working	23 (45.1)
The time elapsed after the diagnoses of PCOS [median (IQR)] (year)	3 (2-4)

PCOS: polycystic ovary syndrome

Table 2. Symptoms and signs of women who diagnosed with PCOS

Symptoms and signs	n (%)
Oligomenorrhea	34 (66.7)
Obesity	35 (68.6)
Hirsutism	27 (52.9)
Insulin resistance	24 (47.1)
Acne	21 (41.2)
Infertility	7 (13.7)
Polycystic appearance on USG	34 (66.7)

PCOS: polycystic ovary syndrome, USG: ultrasonography

The self-esteem results of the women with PCOS who participated in the study, as assessed by the RBSS, are shown in **Table 3**. While the mean RBSS score was 1.41±2.1; it was observed that the self-esteem was at a moderate level. It was observed that 49.0% of the women had high self-esteem, 43.1% had medium self-esteem, and 7.8% had low self-esteem (**Table 4**). While no relationship was found between educational status and the number of self-esteem; only the rate of seeing themselves as unsuccessful was significantly higher for those whose education level was below the university degree than those whose education level was university or higher (p=0.039). It was determined that the age, marital status and employment status of women diagnosed with PCOS did not have any effect on their self-esteem. When the effect of women's PCOS findings on self-esteem is examined; women with acne and hirsutism had a higher rate of low self-esteem (p=0.014 and p=0.023, respectively). There was no statistically significant difference between obesity, insulin resistance, and oligomenorrhea and the number of self-esteem.

Table 3. Self-esteem results of women with PCOS as assessed by Rosenberg self-esteem scale.

Rosenberg self-esteem scale	Yanıtlar [n (%)]			
	Very True	True	False	Very False
I find myself as valuable as other people	29 (56.9)	19 (37.3)	2 (3.9)	1 (2.0)
I think I have some positive traits	30 (58.8)	19 (37.3)	2 (3.9)	0 (0)
I generally tend to see myself as an unsuccessful person	7 (13.7)	7 (13.7)	23 (45.1)	14 (27.5)
I can do as much as most other people can	33 (64.7)	17 (33.3)	1 (2.0)	0 (0)
I can't find much to be proud of myself	2 (3.9)	3 (5.9)	22 (43.1)	24 (47.1)
I have a positive attitude towards myself	13 (25.5)	32 (62.7)	5 (9.8)	1 (2.0)
I am generally satisfied with myself	21 (41.2)	24 (47.1)	4 (7.8)	2 (3.9)
I wish I could respect myself more	19 (37.3)	11 (21.6)	15 (29.4)	6 (11.8)
Sometimes I think I'm absolutely useless	6 (11.8)	7 (13.7)	24 (47.1)	14 (27.5)
Sometimes I think I'm not a good enough person at all	6 (11.8)	7 (13.7)	24 (47.1)	14 (27.5)

PCOS: polycystic ovary syndrome

Table 4. Self-esteem levels of women diagnosed with PCOS

Self-esteem levels (points)	n	%
Low (0-1)	4	7.8
Normal (2-4)	22	43.1
High (≥5)	25	49.0

PCOS: polycystic ovary syndrome

The sexual dysfunctions of women with PCOS who participated in the study were evaluated. When the total sexual desire scores were analyzed, 47.1% (n=24) of the women had low sexual desire levels; the median sexual desire score was 4.2 (minimum 1.2-maximum 6.0, IQR 3-4.8) (**Table 5**). The age, marital status and employment status of the women did not affect on the level of sexual desire. In addition, no significant relationship was found between the time elapsed after the diagnosis of PCOS and the PCOS findings and sexual desire levels.

Table 5. Sexual dysfunction scale results of women diagnosed with PCOS

Sexual dysfunction	SDS points [Median (IQR)]	Level [n (%)]		
		Low	Normal	High
Desire	4.2 (3-4.8)	24 (47.1)	21 (41.1)	6 (11.8)
Arousal	3.9 (3.3-5.1)	29 (56.9)	18 (35.3)	3 (5.8)
Lubrication	2.0 (1-2)	14 (27.5)	30 (58.6)	7 (13.7)
Orgasm	4.2 (2.8-5.6)	22 (43.1)	23 (45.1)	6 (11.8)
Pain	3.6 (3.2-4.0)	51 (100)	0 (0)	0 (0)
Satisfaction	4.8 (3.6-6.0)	16 (31.4)	25 (49.0)	10 (28.6)
Total sexual dysfunction	24.0 (21.9-29.9)	22 (43.2)	27 (52.9)	2 (3.9)

SDS: Sexual dysfunction scale, PCOS: polycystic ovary syndrome

The median sexual arousal score was 3.9 (minimum 0-maximum 6.0, IQR 3.3-5.1) (**Table 5**). It was observed that 56.8% (n=29) of the women had a low level of sexual arousal. Age, marital status, educational status and employment status of the women did not affect on their sexual arousal levels. In contrast, women with PCOS with hirsutism (72.0%-37.5%) and menstrual irregularity (68.8%-29.4%) had significantly lower sexual arousal levels (p=0.015 and p=0.022, respectively).

The median lubrication level score of the women during the sexual intercourse was 2.0 (minimum 1-maximum 2, IQR 1-2) (**Table 5**). More than half of the women (58.8%) had normal lubrication levels; only 31.4% (n=14) had low lubrication levels. Age, marital status, educational status and employment status of the women did not affect on their sexual arousal levels. In addition, no significant relationship was found between the time elapsed after the diagnosis of PCOS and PCOS findings and sexual desire levels.

While 43.1% of women had low orgasm levels during sexual intercourse; only 31.4% had low level of sexual satisfaction (**Table 5**). In addition, the level of pain during the sexual intercourse was a low in all women. Orgasm levels were significantly higher in women with high school or below education level than those with the university education and above (81.3% vs 51.6%, p=0.047, respectively). However, the sexual satisfaction level was a low in 46.4% of working women with PCOS; only 13.1% of unemployed women had low level of sexual satisfaction (p=0.015). In addition, 72.7% of single women with PCOS had low sexual satisfaction levels; only 20% of married women with PCOS had low sexual satisfaction (p=0.002). Sexual dysfunction was also observed in 43.2% of women with PCOS who participated in the study (**Table 5**).

DISCUSSION

In this study, the self-esteem levels and sexual dysfunctions of women diagnosed with PCOS were analyzed. An important part of people's health status is their sexual life and sexual health. The body image of women changes depending on their physical appearance and body health; it is stated that this situation has a significant effect on their self-esteem (5). In the study conducted by Nazik et al. (5) in our country, it was observed that the self-esteem levels of women diagnosed with PCOS were low. However, Acmaz et al. (16) also reported that the self-esteem levels of women with PCOS were lower than those of healthy women. In addition, 62.1% of obese patients had low self-esteem, while 75.4% of PCOS patients with hirsutism and acne had moderate self-esteem. In our study, contrary to the literature, only 7.8% of women diagnosed with PCOS had low self-esteem levels; only women with acne and hirsutism had a higher rate of low self-esteem. Compared to other studies, the fact that the women in our study were younger and had a higher education level may explain this result.

The available information about the sexuality of women is less and insufficient compared to men (10). On the other hand, it is known that emotional factors and hormonal levels of women are effective on sexual functions (3,10,17). In epidemiological studies in the literature, 43% of women reported sexual dysfunction in the United States; this rate has been reported as 58% in Latin America and 5.8% in the United Kingdom (18-20). Women's sexual dysfunctions, especially low sexual desire and impaired body image perception are the most blamed conditions in the etiology (21). In a meta-analysis, in which many studies investigating sexual dysfunction in women with PCOS were analyzed, it was stated that the risk of sexual dysfunction is 30% higher in PCOS patients compared to healthy women (4). On the other hand, it has been shown that women with PCOS do not have any sexual dysfunction despite obesity and hirsutism (12). In addition, a meta-analysis evaluating ten studies and 1163 PCOS patients, showed that there was no relationship between sexual dysfunctions of women and PCOS (13). In our study, sexual dysfunction was found in 43.2% of women with PCOS.

Lack of sexual desire constitutes an important part of sexual dysfunction in women. It has been reported that women with PCOS have less sexual desire and their sexual desire is negatively affected due to physical characteristics such as obesity, hirsutism and/or acne (22,23). In our study, similar to the literature, nearly half of the women diagnosed with PCOS had a low sexual desire and lack of arousal. It was found that women's body image disorders affected them, especially hirsutism and oligomenorrhea, which decreased their sexual arousal levels.

It is thought that sexual satisfaction is affected in women with PCOS who have high testosterone levels. In the literature on this subject, it has been reported that although sexual dysfunctions are observed in patients with PCOS, there is a direct correlation between high testosterone levels and sexual satisfaction (24). On the other hand, the study by Nasiri et al. (3), showed that the testosterone levels of women with PCOS did not affect on sexual satisfaction. However, in a study conducted in our country, it was thought that sexual satisfaction was low in women with PCOS with high testosterone levels, and the reason for this was that hirsutism, acne and oligomenorrhea in these women affected sexual satisfaction (25). In addition, studies are reporting that education level and infertility increase sexual dysfunction in PCOS patients (3). In the study conducted by Kolukcu et al. (25), it was stated that the employment status and education level did not affect the sexual life of women, but sexual dysfunction occurred at a higher rate in those with infertility. In our study, it was observed that infertility, employment status and education level of women with PCOS did not affect on sexual dysfunction; the level of education affects the orgasm status of women with PCOS, while working status and being married have an effect on the level of sexual satisfaction of women.

Limitations of the study; (1) the fact that our study was carried out in a single-center and high-level center constitutes an important limitation in the generalization of our results; (2) an insufficient number of women participating in the study; (3) includes only women diagnosed with PCOS.

CONCLUSION

One of the most important comorbidities of PCOS is sexual dysfunction. Sexual reluctance, especially with the effect of physical changes and hirsutism, is the most important part of sexual dysfunction. Sexual dysfunctions should also be evaluated in the follow-up and treatment of PCOS patients.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was carried out with the permission of Demiroglu Bilim University Faculty of Medicine Scientific Researches Ethics Committee (Date: 2022, Decision No: 2022-06-02).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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